Amendments to the Claims

Pursuant to 37 C.F.R. § 1.121(c), this listing of claims will replace all prior versions, and listing of claims in the application:

1-50. (canceled)

51. (currently amended) A method for use in deriving chemical structural information, comprising the steps of:

acquiring a chemical name;

preprocessing the name to standardize its formatting;

dividing the name into a series of meaningful text string fragments;

associating each meaningful text string fragment with at least one data object known as a nomToken, thereby creating a list of one or more nomTokens, wherein each text string fragment comprises the name of the corresponding nomToken, and wherein each nomToken comprises:

a connection table,

a locant map that associates names of individual atoms with respective specific locations in the connection table,

an attach-in map that stores a list of atoms identified in the connection table that are considered to be awaiting attachment, and

an attach-out map that associates a specific bond order to an attachment;

and wherein each nomToken is classified by Type and Subtype from a ranked list of Types and Subtypes;

consolidating ~~the list of nomTokens into a smaller list that contains fewer nomTokens~~ two or more nomTokens into a single replacement nomToken; and

repeating the consolidating step until only one nomToken remains, wherein the connection table of the remaining nomToken corresponds to the structure of the chemical name.

52. (previously presented) The method of claim 51, further comprising the steps of:

deriving a graphical representation of the structure of the chemical name from the connection table of the single remaining nomToken; and

presenting the graphical representation of the structure to the user in the form of output.

53. (currently amended) The method of claim 51, wherein the consolidating step further comprises the steps of:

~~examining the environment of each nomToken, wherein the examining step comprises a step of determining the Type of each nomToken, the Subtype of each nomToken and the Type and Subtype of other nearby nomTokens in the list of nomTokens~~ examining the Types and Subtypes of the nomTokens for the first Type from a predetermined list of Types; and

determining if the Type and Subtype ~~combination of each nomToken~~ of the nomToken of the first Type from the predetermined list of Types is compatible with ~~the environment~~ one or more Type and Subtype of the remaining nomTokens; and

joining ~~two or more nomTokens~~ a group of one or more nomTokens of the remaining nomTokens with the nomToken of the first Type into a single

replacement nomToken, wherein the connection table, locant map, attach-in map, and attach-out map of each nomToken in the group and of the nomToken of the first type are used to create an appropriate connection table for the replacement nomToken when the Types and Subtypes ~~combination of each nomToken is compatible with the environment~~ of the nomTokens in the group are compatible with the Type and Subtype of the nomToken of the first Type.

54. (currently amended) A method for use in deriving chemical structural information, comprising the steps of:

a) acquiring a chemical name;

b) preprocessing the name to standardize formatting;

[[b)]] c) dividing the name into a series of meaningful text string fragments;

[[c)]] d) associating each meaningful text string fragment with at least one data object known as a nomToken, wherein

~~the~~ each text string fragment comprises the name of the nomToken, and wherein

each nomToken comprises:

a connection table,

a locant map that associates names of individual atoms with respective specific locations in the connection table,

an attach-in map that stores a list of atoms identified in the connection table that are considered to be awaiting attachment, and

an attach-out map that associates a specific bond order to an attachment; and wherein

each nomToken is initially identified ~~as the nomToken of~~ with the highest Type and Subtype from a ranked list of Types and Subtypes whose name matches the name of the text string fragment;

[[d)]] e) examining the Types and Subtypes of the nomTokens for ~~each of a series of environments~~ the first Type from a predetermined list of Types;

examining the remaining nomTokens for compatible Types and Subtypes when a nomToken of the first Type is identified;

[[e)]] f) for each ~~identified environment~~ set of compatible nomTokens, modifying the associated nomTokens, wherein the modifying step comprises:

i) combining two or more nomTokens into a single replacement nomToken;

ii) converting one or more nomTokens to the next highest ranked nomTokens of identical name;

[[f)]] g) repeating steps ~~d) and e)~~ e) and f) until all ~~environments~~ Types have been examined, wherein for each repeating step, the ~~environment is~~ nomTokens are examined for the next ~~highest nomToken~~ Type from the predetermined list of Types.

55. (canceled)

56. (currently amended) The method of claim 54, wherein one or more nomTokens is converted to the next highest ~~ranged~~ ranked nomToken when an ~~environment~~ set of compatible nomTokens is not identified.

57. (canceled)

58. (previously presented) The method of claim 51 or 54 further comprising the step of:

identifying one or more text string fragments that represent the root portion of the chemical name;

examining the remaining fragments of the text string fragment for fragments that directly modify the root portion of the chemical name.

59. (canceled)

60. (currently amended) The method of claim [[59]] 51, wherein the preprocessing step ~~further~~ comprises one or more of the following steps:

converting the name to all lower-case characters;

identifying and correcting typographical errors;

spelling out uncommon characters of chemical significance; and

determining if the chemical name is inverted and converting the chemical name to a corresponding uninverted form.

61. (canceled)

62. (currently amended) Computer software, residing on a computer-readable storage medium, comprising a set of instructions for use in a computer system to derive chemical structural information, the instructions causing the system to:

acquire a chemical name;

preprocess the name to standardize its formatting;

divide the name into a series of meaningful text string fragments;

associate each meaningful text string fragment with at least one data object known as a nomToken thereby creating a list of nomTokens, wherein each text string fragment comprises the name of the corresponding nomToken, and wherein each nomToken comprises:

a connection table,

a locant map that associates names of individual atoms with respective specific locations in the connection table,

an attach-in map that stores a list of atoms identified in the connection table that are considered to be awaiting attachment, and

an attach-out map that associates a specific bond order to an attachment;

and wherein each nomToken is classified by Type and Subtype from a ranked list of Types and Subtypes;

consolidate ~~the list of nomTokens into a smaller list that contains fewer nomTokens~~ two or more nomTokens into a single replacement nomToken; and

repeat the consolidating step until only one nomToken remains, wherein the connection table of the remaining nomToken corresponds to the structure of the chemical name.

63. (previously presented) The computer software of claim 62, further comprising instructions for use in a computer system to:

derive a graphical representation of the structure of the chemical name from the connection table; and

present the graphical representation of the structure to the user in the form of output.

64. (currently amended) The computer software of claim 62, further comprising instructions for use in a computer system to:

~~examine the environment of each nomToken to determine the Type of each nomToken, the Subtype of each nomToken and the identity of other nearby nomTokens~~

examine the Types and Subtypes of the nomTokens for the first Type from a predetermined list of Types;

determine if the Type and Subtype ~~combination of each nomToken~~ of the nomToken of the first Type from the predetermined list of Types is compatible with ~~the environment~~ one or more Type and Subtype of the remaining nomTokens; and

join ~~two or more nomTokens~~ a group of one or more nomTokens of the remaining nomTokens with the nomToken of the first Type into a single replacement nomToken, wherein the connection table, locant map, attach-in map, and attach-out map of each nomToken in the group and of the nomToken of the first type are used to create an appropriate connection table for the replacement nomToken when the Types and Subtypes ~~combination of each nomToken is compatible with the environment~~ of the nomTokens in the group are compatible with the Type and Subtype of the nomToken of the first Type.

65. (currently amended) Computer software, residing on a computer-readable storage medium, comprising a set of instructions for use in a computer system to derive chemical structural information, the instructions causing the system to:

a) acquire a chemical name;

b) preprocess the name to standardize formatting;

[[b)]] c) divide the name into a series of meaningful text string fragments;

[[c)]] d) associate each meaningful text string fragment with at least one data object known as a nomToken, wherein

~~the~~ each text string fragment comprises the name of the nomToken, and wherein

each nomToken comprises:

a connection table,

a locant map that associates names of individual atoms with respective specific locations in the connection table,

an attach-in map that stores a list of atoms identified in the connection table that are considered to be awaiting attachment, and

an attach-out map that associates a specific bond order to an attachment; and wherein

each nomToken is ~~classified by~~ initially identified with the highest Type and Subtype ~~appropriate for the text string~~ from a ranked list of Types and Subtypes whose name matches the name of the text string fragment;

[[d)]] e) examine the Types and Subtypes of the nomTokens for ~~each of a series of environments~~ the first Type from a predetermined list of Types;

examine the remaining nomTokens for compatible Types and Subtypes when a nomToken of the first Type is identified;

[[e)]] f) for each ~~identified environment~~ set of compatible nomTokens, modify the associated nomTokens, wherein the modifying step comprises instructions that causes the system to:

i) combine two or more nomTokens into a single replacement nomToken;

ii) convert one or more nomTokens to the next highest ranked nomToken of identical name;

[[f)]] g) repeat steps ~~d) and e)~~ e) and f) until all ~~environments~~ Types have been examined, wherein for each successive repeating step, the ~~environment is~~ nomTokens are examined for the next ~~highest nomToken~~ Type from the predetermined list of Types.

66. (canceled)

67. (currently amended) The computer software of claim 65, wherein one or more nomTokens is converted to the next highest ~~ranged~~ ranked nomToken when ~~an environment~~ a set of compatible nomTokens is not identified.

68. (canceled)

69. (previously presented) The computer software of claim 62 or 65, further comprising instructions for use in a computer system to:

identify one or more text string fragments that represent the root portion of the chemical name; and

examine the remaining fragments for those that directly modify the root portion of the chemical name.

70. (canceled)

71. (currently amended) The computer software of claim [[70]] 62, wherein the preprocessing function further comprises one or more of the following instructions for ~~use in a computer~~ causing the system to:

convert the name to all lower-case characters;

identify and correcting typographical errors;

spell out uncommon characters of chemical significance; and

determine if the chemical name is inverted and converting the chemical name to its uninverted form.

72. (canceled)

73. (new) The method of claim 51, wherein the number of meaningful text string fragments is the smallest number of meaningful fragments of a maximum length.

74. (new) The method of claim 54, wherein the number of meaningful text string fragments is the smallest number of meaningful fragments of a maximum length.

75. (new) The computer software of claims 62, wherein the number of meaningful text string fragments is the smallest number of meaningful fragments of a maximum length.

76. (new) The computer software of claims 65, wherein the number of meaningful text string fragments is the smallest number of meaningful fragments of a maximum length.